



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1456  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09 623,268	08/30/2000	Frank Filser	00-497	1826

7590

06/19/2003

Gregory P Lapointe  
Bachman & LaPointe  
Suite 1201  
900 Chapel Street  
New Haven, CT 06510-2802

EXAMINER

FIORILLA, CHRISTOPHER A

ART UNIT

PAPER NUMBER

1731

20

DATE MAILED: 06/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/623,268

Applicant(s)

FILSER ET AL.

Examiner

Christopher A. Fiorilla

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 16-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 1731

1. Claims 16-32 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 16-32 use the phrase "the achievable relative density after sintering" to define the enlargement factor,  $f$ , recited in the claims. It is submitted that the specification does not enable one skilled in the art to make or use the invention because in order to make or use the invention, one must determine the enlargement factor, which cannot be readily determined because there is no teaching as to how to determine the "achievable relative density after sintering".

2. Claims 16-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Further, the phrase "achievable relative density after sintering" used in claims 16 and 32 is indefinite in that the metes and bounds of this phrase cannot be readily determined. The density after sintering depends on many factors not specifically recited in the claims (e.g. ceramic composition, particle size, sintering temperature, sintering time, sintering pressure).

Claims 16 and 32 are indefinite in that they appear to recite that the enlargement factor is determined independently of the blank of porous ceramic material. This is contradictory to the specification which recites that an individual enlargement factor for each blank is determined even if they are made from the same material (see e.g. page 8, third paragraph).

Art Unit: 1731

3. Applicant's arguments filed 4/2/03 have been fully considered but they are not persuasive.

**With respect to the 112, first paragraph rejection as set forth in paragraph 3 of the last office action applicants argue:**

**The article cited by applicants from the Journal of American Ceramic Society dated 1996 clearly describes how to determine the achievable density after sintering for a given material for different sintering parameters using a master sintering curve. It is respectfully submitted that this article clearly establishes that one skilled in the art to which this invention pertains would know how to determine the "achievable relative density after sintering" of a porous ceramic material at the time the invention was made.**

This argument is not persuasive. The article discusses the assumptions made for determining a master sintering curve (i.e. determining the relative density) at page 3213. The article states that the MSC can be applied only to powder compacts made from the same powder and by the same green body processing. Thus the article teaches that the relative density (and thus the shrinkage factor,  $f$ , determined therefrom) would be constant for a specific material made by a specific green body processing technique. That is, given a specific material made by a specific green body processing technique a specific relative density is determined, thus a specific shrinkage factor is determined via the formula in claims 16 and 32. This is contrary to the specification which teaches on page 8, lines 15-18, "Even if the blanks are made from one and the same material and are produced on the same production equipment with the same process, the enlargement factor is not constant." Thus, the article cannot be relied upon to establish that one of ordinary skill in the art at the time of the invention could determine the "achievable relative density after sintering" as used in the present application.

Art Unit: 1731

In applicants' response to the last office action, they address the portion of the specification to which the examiner refers above. Applicants state "obviously there are process differences in parameters, differences in material suppliers, etc. which would result in some minor differences in the enlargement factor,  $f$ ". This appears to support the examiner's rationale for making the 35 USC 112, first paragraph rejection (i.e. it is unclear as to how all these variables can exist and a specific value for  $f$  can be determined. Further, although applicants refer to "minor differences", the shrinkage factor  $f$  is a single value, and there is no teaching in the specification as to acceptable "minor differences".

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 1731

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher A. Fiorilla whose telephone number is 703-308-0674. The examiner can normally be reached on M-F, 6:30am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on 703-308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7718 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

A handwritten signature in black ink, appearing to read 'ca Fiorilla', with a stylized flourish at the end.

**Christopher A. Fiorilla**  
**Primary Examiner**  
**Art Unit 1731**

caf  
June 16, 2003